

ENZONE® SOIL FUMIGANT: APPLICATION IS KEY TO SUCCESS

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ENZONE® is currently registered and used for pre-plant, and post-plant soil applications in California on grapes, citrus, almonds, peaches, plums, prunes and roses. Additional registrations outside the US include vegetables (tomatoes, cucurbits, peppers, lettuce, etc.), raspberries and strawberries. It provides effective control of soil nematodes (ring, root-knot, etc.), diseases (*Phytophthora*, *Armillaria* etc.) and insects (grape phylloxera, etc.).

ENZONE is an aqueous solution of sodium tetrathiocarbonate that breaks down in the soil to carbon disulfide gas, the active moiety. It is not classified as a Restricted Use Pesticide and in California, it is the only fumigant that does not require a Notice of Intended Use. With its excellent crop safety, ENZONE is the only fumigant that is registered for use on established crops.

ENZONE is not as volatile as other fumigants, e.g., methyl bromide, chloropicrin, 1,3-D, and does not move as easily with the soil air. It moves through the soil profile to the target pests more efficiently with soil moisture (Rf value >0.9).

ENZONE may be applied through low volume (drip, drip tape, minisprinklers) or surface (flood, furrow) irrigation systems. Soil moisture should be near field capacity at the time of ENZONE application in order to facilitate water movement and ENZONE distribution in the soil profile. Pre-irrigation the day before application is recommended.

The effective use of ENZONE is based on maintaining a desired concentration (ppm ai of sodium tetrathiocarbonate) in the irrigation water needed to reach a depth just below the target pest in the soil profile. The amount of irrigation water-ENZONE solution needed to reach a certain depth depends on the water holding capacity of the soil to be treated. For example, sandy soils would require less water than loamy and clay soils. Irrigation time should be as long as required to reach just below the target pests in the root zone. ENZONE should be injected at a steady rate into the irrigation water over time to maintain a constant concentration in the irrigation water throughout the application.

When using low volume irrigation system, continue irrigation after ENZONE application for 15 to 30 minutes to flush lines and emitters of ENZONE solution and to seal the soil. When using surface irrigation, stop irrigation as soon as the application is completed and uniform coverage of entire treated area has been achieved to prevent dilution of ENZONE-treated water. Do not irrigate again for at least 48 hours after ENZONE application to prevent dilution of ENZONE in the soil.

For replant situations of individual tree sites, ENZONE is mixed with water and applied as a drench in a shallow basin around the planting site in sufficient volume to penetrate below the depth of the new plant's root zone. Settle the soil with at least one irrigation before planting but no sooner than 48 hours after treatment.

This presentation will discuss guidelines for the different application methods for ENZONE.